| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/727,184 | SCHOENBERG, ROY | |
| | Examiner | Art Unit | |
| | KUEN S. LU | 2167 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-52* is/are pending in the application.

4a) Of the above claim(s) *11-20,31-40 and 43-52* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,21-30,41 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-52* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 December 2003* is/are: a)☒ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/9/2004*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *7/23/2008* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

**1.** This Action is responsive to Applicant's Application filed December 3, 2003. Claims 1-52 are pending, in which claims 1-10, 21-30 and 41-42 were elected, as described below, for prosecution and the claims are rejected.

**2.** Claims 1-10, 21-30 and 41-42 have been examined and are pending.

### *Election/Restrictions*

**3.** During a telephone conversation with Mr. Jody Bishop (Registration 44,034) on July 23, 2008 provisional election was made without traverse to prosecute the invention of **I**, claims 1-10, 21-30 and 41-42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-20, 31-40 and 43-52 were withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

**3.1.** Restriction to one of the following three inventions is required under 35 U.S.C. 121:

**I**. Claims 1-10, 21-30 and 41-42, drawn to data structure or database generation, classified in class 707, subclass 102; and

**II**. Claims 11-20, 31-40 and 43-52, drawn to query formulation, input preparation or translation, classified in class 707, subclass 4.

**3.2.** The inventions I and II are related as sub-combinations disclosed as usable together in a single combination. The sub-combinations are distinct from each other if they are shown to be separately usable.

In the instant case, invention **I** is related to **defining text-based range descriptors and generating text strings for records**; and

Invention **II** is mainly related to **defining a target data range and searching text strings.**

Because these inventions are distinct and related to different art sub-classifications, restriction for examination purposes as indicated is proper. Also please be advised this election/restriction does not preclude any further election/restriction of claim groups in each specific art above.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(l).

Applicant is reminded that the reply to this restriction election to be completed must include a confirmation of election of the invention to be examined in responses to this office action, even though the requirement be traversed (37 CFR 1.143).

***Positive 35 USC § 101 Claims Statement***

**4.** 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**4.1.** Claim 21 is directed to a computer program product residing on a computer readable medium having instructions stored thereupon and based on specification [0011] and [0012], this Examiner interprets as a computer readable medium having

instructions stored thereupon, an article of manufacture. Therefore the claim squarely falls within the statutory category of manufacture.

**4.2.** Claims 22-30, depend upon and inherit the physical structure of the system of claim 21, directly or indirectly, and therefore, squarely fall within the manufacture statutory category.

***Information Disclosure Statement***

**5.** Information Disclosure Statements filed February 9, 2004 is considered and corresponding PTO-1449 is electronically signed and attached.

***Drawings***

**6.** The drawings, filed December 3, 2003 are considered in compliance with 37 CFR 1.81 and accepted.

***Claim Rejections - 35 USC § 102***

**7.** The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**7.1.** Claims … are rejected under U.S.C. 102(e) as anticipated by …

***Claim Rejections - 35 USC § 103***

**8.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**8.1.** Claims 1-10, 20-30 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lickiss et al. (U.S. Patent 6,104,798, filed February 12, 1998 and issued August 15, 2000, hereafter "Lickiss") and further in view of Brown et al. (U.S. Patent Application Publication 2002/0171673 A1, filed May 3, 2001 and published November 21, 2002, hereafter "Brown").

As per claim 1, Lickiss teaches "A range-conversion method comprising" (See Fig. 3a and col. 9, lines 45-49 where order received is translated into different format): "receiving data records, wherein each data record includes one or more data fields and a field value associated with each data field" (See Fig. 10 and col. 10, lines 32-40 where a customer order is received and it contains many data fields assigned with values).

Lickiss does not explicitly teach "identifying one or more data fields as a range-based data field".

However, Brown teaches "identifying one or more data fields as a range-based data field" (See Fig. 11 and [0063] where Time is identified as a range–based data field).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of Brown with Lickiss reference by implementing range-based processes for customer order validation, activation and provisioning to Lickiss' carrier based order processing and reporting system because the range-based processes would have allowed information of carrier customers more efficiently validated, stored and tracked via an indexing of the ranged-based data field(s).

The combined teaching of the Brown and Lickiss references further teaches "defining a plurality of text-based range descriptors, wherein each text-based range descriptor is associated with a range of field values for one of the range-based data fields" (See Brown: Fig. 11 and [0063] where scheduled event is the text-based range descriptors in which the event is associated with Time, the range-based data field).

As per claim 21, Lickiss teaches "A computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to" (See Fig. 1 and col. 2, lines 48-54 where an application residing on a computer and functioning as an order system serving all customer accounts, including data translation):

"receive data records, wherein each data record includes one or more data fields and a

field value associated with each data field" (See Fig. 10 and col. 10, lines 32-40 where a customer order is received and it contains many data fields assigned with values).

Lickiss does not explicitly teach "identify one or more data fields as a range-based data field".

However, Brown teaches "identify one or more data fields as a range-based data field" (See Fig. 11 and [0063] where Time is identified as a range–based data field).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of Brown with Lickiss reference by implementing range-based processes for customer order validation, activation and provisioning to Lickiss' carrier based order processing and reporting system because the range-based processes would have allowed information of carrier customers more efficiently validated, stored and tracked via an indexing of the ranged-based data field(s).

The combined teaching of the Brown and Lickiss references further teaches "define a plurality of text-based range descriptors, wherein each text-based range descriptor is associated with a range of field values for one of the range-based data fields" (See Brown: Fig. 11 and [0063] where scheduled event is the text-based range descriptors in which the event is associated with Time, the range-based data field).

As per claim 41, Lickiss teaches "A searching system comprising" (See Fig. 1 and col. 2, lines 48-54 where an order system comprising a computer having an application residing thereon and serving all customer accounts):

"a server system including a computer processor and associated memory, the server system having a database that includes a plurality of data records" (See Fig. 1, col. 2, lines 48-54 and col. 3, lines 4-11 where a mainframe computer having an application and database implemented thereon serving all customer account records), wherein the server system is configured to:

"receive data records, wherein each data record includes one or more data fields and a field value associated with each data field" (See Fig. 10 and col. 10, lines 32-40 where a customer order is received and it contains many data fields assigned with values).

Lickiss does not explicitly teach "identify one or more data fields as a range-based data field".

However, Brown teaches "identify one or more data fields as a range-based data field" (See Fig. 11 and [0063] where Time is identified as a range–based data field).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of Brown with Lickiss reference by implementing range-based processes for customer order validation, activation and provisioning to Lickiss' carrier based order processing and reporting system because the range-based processes would have allowed information of carrier customers more efficiently validated, stored and tracked via an indexing of the ranged-based data field(s).

The combined teaching of the Brown and Lickiss references further teaches "define a plurality of text-based range descriptors, wherein each text-based range descriptor is associated with a range of field values for one of the range-based data fields" (See

Brown: Fig. 11 and [0063] where scheduled event is the text-based range descriptors in which the event is associated with Time, the range-based data field).

As per claims 2 and 22, the combined teaching of the Brown and Lickiss references further teaches "wherein a text-string is associated with a specific data record" (See Lickiss: Fig. 10 and col. 10, lines 32-40 where the LEC Status File is the text-string associated with the specific data record).

As per claims 3 and 23, the combined teaching of the Brown and Lickiss references further teaches "wherein the specific data record includes a range-based data field, the range-conversion method further comprising" (See Lickiss: Fig. 10 and col. 10, lines 32-40 where a customer order is received and it contains many data fields):
"incorporating, into the text-string associated with the specific data record, the text-based range descriptor that is associated with the field value of the range-based data field included in the specific data record" (See Lickiss: col. 22, lines 26-31 where validated customer information is converted into a format suitable for provisioning at local carrier exchange entity).

As per claims 4 and 24, the combined teaching of the Brown and Lickiss references further teaches the following:
"generating a text-string for each data record, wherein each text-string includes one or more text-based data descriptors, such that each data descriptor includes" (See Lickiss:

Fig. 10 and col. 10, lines 32-40 where the LEC Status File is the text-string associated with the specific data record and more descriptions are generated for the data fields): "a field descriptor that defines a specific data field within the data record to which the text-string is related, and a value descriptor that defines the field value associated with the specific data field" (See Lickiss: Fig. 10 and col. 10, lines 32-40 where descriptions are generated for the data fields and the data fields are assigned with values).

As per claims 5 and 25, the combined teaching of the Brown and Lickiss references further teaches "wherein each text-string further includes a record identifier that identifies the data record to which the text-string is related" (See Lickiss: Fi. 9 and col. 9, lines 29-44 where each record is described by field descriptions and all records are described by the header and trailer information).

As per claims 6 and 26, the combined teaching of the Brown and Lickiss references further teaches "wherein a specific data record includes a range-based data field, the range-conversion method further comprising" (See Brown: Fig. 11 and [0063] where Time is identified as a range–based data field and Lickiss: col. 22, lines 26-31 where validated customer information is converted into a format suitable for provisioning at local carrier exchange entity):
"incorporating, as the value descriptor of the text-string associated with the specific data record, the text-based range descriptor that is associated with the field value of the range-based data field included in the specific data record" (See See Lickiss: Fi. 9 and

col. 9, lines 29-44 where each record is described by field descriptions and all records are described by the header and trailer information).

As per claims 7 and 27, the combined teaching of the Brown and Lickiss references further teaches "wherein each data descriptor includes one or more starting characters, one or more separator characters, and one or more ending characters" (See Lickiss: Fig. 13 and col. 17, 44-59 where data fields start with and end with a character, comma).

As per claims 8 and 28, the combined teaching of the Brown and Lickiss references further teaches "wherein the field descriptor is positioned between the separator characters and one of the starting characters and the ending characters" (See Lickiss: Fig. 13 and col. 17, 44-59 where data fields start with and end with a character, comma).

As per claims 9 and 29, the combined teaching of the Brown and Lickiss references further teaches "wherein the value descriptor is positioned between the separator characters and the other of the starting characters and the ending characters" (See Lickiss: Fig. 13 and col. 17, 44-59 where data fields start with and end with a character, comma ).

As per claims 10 and 30, the combined teaching of the Brown and Lickiss references

further teaches "wherein each range of field values is a numeric range" (See Brown: Fig. 11 and [0063] where Time field is of numeric range, for example, from a time at 8:00 AM to 9:00 AM).

As per claim 42, the combined teaching of the Brown and Lickiss references further teaches "The searching system of claim 41 wherein the server system is coupled to a distributed computing network" (See Brown: Fig. 1 where a computer server is coupled to a network).

***References***

**7.1.** The prior art made of record

A. U. S. Patent 6,104,798

I. U. S. Patent Application Publication 2002/0171673 A1

**7.2.** The (prior) art made of record and not relied upon is considered pertinent to Applicant's disclosure.

B. U. S. Patent 6,643,644

C. U.S. Patent Application Publication 2003/0101238 A1

D. U. S. Patent 5,249,169

E. U. S. Patent 5,579,407

F. U. S. Patent Application Publication 2003/0120622 A1

G. U. S. Patent 6,154,466

H. U. S. Patent 6,110,224

***Contact Information***

**8.** Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kuen S. Lu whose telephone number is (571)-272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm).
If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571)-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, please call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KUEN S. LU, August 5, 2008

Primary Examiner Art Unit 2167

/Kuen S Lu/
Primary Examiner, Art Unit 2167